

## **Remarks**

### **Information Disclosure Statement**

Applicant again respectfully requests that Examiner initial the Information Disclosure filed with the application, to indicate that the examiner has considered the cited references in accord with MPEP § 609, and provide a copy of the initialed document for the applicant's files.

### **Status of the Claims**

Claims 1-11 are pending in the application and have been rejected.

### **Explanation of the Amendments**

Claim 1 has been amended to recite that the first resin is a 2-chlorotrityl chloride resin or any similar resin which inhibits or minimizes the formation of diketopiperazine. Support for the amendment is found in the specification at page 7, lines 1-4.

Claim 1 has been further amended to recite that the second resin is a resin having a benzyl alcohol group which, on attachment to said C-terminal portion, forms a benzyl ester linkage with said C-terminal portion. Support for the amendment is found in the specification at page 7, lines 6-15, and Fig. 1.

A minor editorial amendment has been made to claim 8.

### **Response to the Claim Rejections.**

The examiner has rejected claims 1-11 under 35 U.S.C. § 112 second paragraph for alleged indefiniteness. The examiner states that claim 1 is indefinite because the terminology "peptide or its derivative" and "proline or its derivative" allegedly renders the claims unclear. The rejection alleges that it is unclear what modifications can be made to a peptide or to proline to render the compound a "derivative". Applicant respectfully disagrees. The term "derivative"

is defined in the specification with respect to a peptide, or with respect to an amino acid (inclusive of proline):

The expression "derivatives" is directed to a peptide, an amino acid or an amino acid residue which may differ from the corresponding peptide amino acid or residue by the substitution/addition of various substituents. It is usual in protein synthesis to use modified amino acids having protecting groups or which have been modified so as to be able to act as labels or tags or for other desirable purposes. (Specification, page 4, lines 17-25).

Moreover, with respect to derivatives of proline, a representative proline derivative, hydroxyproline, is identified:

For example, in the method of the present invention amino acid derivatives such as hydroxyproline or other proline derivatives could be used. (Specification, page 4, lines 25-28)

The definiteness requirement of 35 U.S.C. § 112 is satisfied by "claims which define the patentable subject matter with a *reasonable* degree of particularity and distinctness." MPEP 2173.02 (emphasis in the original), and applicants are entitled to "latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire". Definiteness of claim language must be analyzed, not in a vacuum, but in light of:

- (A) The content of the particular application disclosure;
- (B) The teachings of the prior art; and
- (C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made."

*Id.*

The skilled artisan would readily understand and envision the substitutions or additions that can be made to a peptide, or to the amino acid proline, which would cause the changed molecule to be regarded as a "derivative". The skilled artisan would recognize that a peptide comprises a chain of amino acids, and from the definition provided in the specification, that a

“peptide derivative” is a molecule derived from a peptide that includes a modification in the nature of a substitution or addition of a chemical substituent in the peptide. Exemplary modifications are indentified as inclusion of amino acids that have been modified by attachment of protecting groups, or have been modified with labels or tags. Similarly, one would understand that a proline derivative is a molecule derived from the amino acid proline, but which includes a substitution or addition, as illustrated by the modification which results in the proline derivative hydroxyproline.

Based upon the foregoing, it is respectfully submitted that the meaning of the claim language “peptide or its derivative” and “proline or its derivative” is clear, and that the claim is therefore not indefinite.

Claim 1 has been rejected for indefiniteness in view of the occurrences of “suitable” and “unsuitable” in claim 1. The rejection is rendered moot in view of the amendment to claim 1, discussed below in response to the Section 112, written description rejection.

Reconsideration and withdrawal of the Section 112, second paragraph rejections is respectfully requested.

The examiner has rejected claims 1-11 under 35 U.S.C. § 112 first paragraph for allegedly failing to comply with the written description requirement. The rejection is premised on the recitation of a “first resin” which is “suitable for formation of peptides having proline residue or a proline derivative”, and the recitation of a “second resin which is “suitable for the synthesis of peptides but unsuitable for formation of peptides having praline (sic) residue”. The rejection alleges that the specification fails to set forth a written description of the claimed genus of first and second resins.

Without acquiescing in the rejection, and solely in an effort to advance prosecution, claim 1 has been amended to character the first resin as a 2-chlorotriyl chloride resin or any similar resin which inhibits or minimizes the formation of diketopiperazine. Support for the amendment

is found in the specification at page 7, lines 1-4. Claim 1 has been further amended to characterize the second resin as a resin having a benzyl alcohol group which, on attachment to the C-terminal portion of a peptide, forms a benzyl ester linkage with the C-terminal portion. Support for the amendment is found in the specification at page 7, lines 6-15 and Fig. 1, which shows the benzyl group of a Wang resin, to which the C-terminal portion of a peptide may be attached.

It is respectfully submitted that the first and second resin characterizations, as set forth in amended claim 1, define the resins in question with a requisite degree of structural detail that is supported by the written description of the specification. Examiner has in fact noted that the specification describes, as is now claimed, a first resin which is a 2-chlorotriyl chloride resin which inhibits or minimizes the formation of diketopiperazine. Examiner has further noted that the specification discloses SARIN and Wang resins as second resins. The structure of the second resin, as stated in amended claim 1, is characteristic of a Wang resin. Thus, the method of claim 1, as amended, conforms to the written description requirements.

Reconsideration and withdrawal of the Section 112, 1<sup>st</sup> paragraph rejection for alleged lack of written description, is respectfully requested.

#### **New Matter**

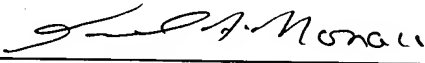
Examiner alleges that the amendment to claim 2, changing "long peptide" to " peptide which comprises at least 20 amino acid residues", constitutes impermissible new matter. Applicant respectfully disagrees. Peptides which have at least 20 amino acid residues are literally disclosed at page 4, lines 8-9. Reconsideration and withdrawal of the new matter rejection is requested.

#### **Conclusion**

The claims are in condition for allowance. An early action toward that end is earnestly solicited.

Respectfully submitted,

ANDREW SMITH JOHNSTONE STEWART

BY 

DANIEL A. MONACO

Registration No. 30,480

Drinker Biddle & Reath LLP

One Logan Square

18th and Cherry Streets

Philadelphia, PA 19103-6996

Tel: (215) 988-3312

Fax: (215) 988-2757

*Attorney for Applicant*